Qualcomm Presence with Unifying Signals API Project

Bi-Weekly Report

10th October 2014

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Project progression

Over the past weeks we have been able to order different pieces of hardware, started coding on them, and physically met with our client. So firstly regarding the hardware we have now got 2 arduino boards one of them has a wifi receiver integrated in int, 2 Passsive Infrared sensor, an ultrasound and a infrared distance sensor. Our proof of concept can be broken into 2 main parts: the first one is detecting a presence going trough a door and the second one is sending this “signal’ to an online database. Therefor we decided to brake the team in two: one handling the connectivity and installation of the system to the network and the other creating a system that detects human presence.

So far we have manage to create a simple algorithm using 2 Sharp sensors. The only problem with these is that they range of detection only goes up to 80 cm therefor making it not so ideal if we were to install the device on the side of a door.

Our client meeting was really interesting and helped us confirm that we were on the correct track to solve the task they have set for us. Until now every meeting was realised with the other qualcomm team, making it sometime

quite tricky to organise ourselves, but as of next week each team will have a particular “supervisor” at qualcomm. However we will still continuously meet up with one another to show the progress of each team.

Over the past week the only difficulty we have faced was the integration of a UI in our project. However we now have decided to integrate something to our device that shows the status of the device at any given time. On the devices themselves it would be 2 lights (the first indicated if the device is connected to the wifi, on, or off) (and the second just lights up when a presence is detected). Furthermore we will try and add create a online visualisation board for the data sent from the rooms.

Tasks completed:

- Meeting up with the client
- Ordering different pieces of hardware including arduino boards and different sensors.
- Managing to code and implement an algorithm for one of the sensor.

Tasks to do in the coming week:

- Managing to connect and send data to the cloud from an arduino board.
- Finishing to test each sensor and dressing up a table of pros and cons of each of them.
- Starting to create the template of the website.

Minutes of meeting

for the COMP2013 - Qualcomm 2 project Team meeting

Date & Time: 28/10/2014 , 14:00

Place: Malet Place Engineering Building 1.21

1. Apologies

Everyone present.

2. Minutes from the last meeting

• continue to research on sensors and algorithms to use sensors

• how to transform analogue signals to digital values (binary/boolean value)

• how to write a robust solution program (how do we error correct?)

3. Discussion

• Order hardware (Arduino and IR sensors).

• Buy a Kinect to experiment over the reading week.

• Organise a further meeting with the UCL technical advisor

4. Task allocation

Laszlo

- Design UI and conduct evaluation for global project.

Yichen

- Design UI and conduct evaluation on Arduino and IR sensors.

Soo Yong

- Design UI and conduct evaluation on Kinect.

5. Any other business

None

6. Date of next meeting

10/11/2014, 10:00 at Engineering Cafe, Malet Place Engineering Building

Minutes of meeting

for the COMP2013 - Qualcomm 2 project Team meeting

Date & Time: 10/11/2014 , 10:00

Place: Engineering Cafe, Malet Place Engineering Building

1. **Apologies**

Everyone present.

2. **Minutes from the last meeting**

• Order hardware (Arduino and IR sensors).

• Buy a Kinect to experiment over the reading week.

• Organise a further meeting with the UCL technical advisor

3. **Discussion**

• Prepare client meeting for coming Thursday on campus.

• Order any other hardware devices required.

4. **Task allocation**

Laszlo

- Design UI and conduct evaluation for global project.

Yichen

- Design UI and conduct evaluation on Arduino and IR sensors.

Soo Yong

- Design UI and conduct evaluation on Kinect.

5. **Any other business**

None

6. Date of next meeting

11/11/2014, 14:00 at Malet Place Engineering Building 1.21

Minutes of meeting

for the COMP2013 - Qualcomm 2 project Team meeting

Date & Time: 11/11/2014 , 14:00

Place: Malet Place Engineering Building 1.21

1. Apologies

Everyone present.

2. Minutes from the last meeting

• Prepare client meeting for coming Thursday on campus.

• Order any other hardware devices required.

3. Discussion

• Prepare client meeting for coming Thursday on campus.

• Order any other hardware devices required.

4. Task allocation

Laszlo

- Start organising web development.

Yichen

- Research (what to buy to boost battery and plug more sensors.)

Soo Yong

- Research (what other sensors can we buy for the arduino board.)

5. Any other business

None

6. Date of next meeting

13/11/2014, 10:30 at Archaeology Building

Minutes of meeting

for the COMP2013 - Qualcomm 2 project Team meeting

Date & Time: 13/11/2014 , 10:30

Place: Archaeology Building

1. Apologies

Everyone present.

2. Minutes from the last meeting

• Prepare client meeting for coming Thursday on campus.

• Order any other hardware devices required.

3. Discussion

• Presented client the progress of the project.

• Plan and document how API looks like.

• Research on algorithms to build robust system.

4. Task allocation

Laszlo

- Starting implementation of web site content.
- organise meeting with the UCL technical supervisor and order hardware devices
- Report client the up-to-dated progress.

Yichen

- Start to build algorithms and programming using arduino and IR sensors.

Soo Yong

- Start to build algorithms and programming using Kinect.

5. Any other business

None

6. Date of next meeting

18/11/2014, 14:00 at Malet Place Engineering Building 1.21